



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2020-0567; FRL-9001-01-R9]

Air Plan Approval; Hawaii; Interstate Transport for the 2015 Ozone NAAQS

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a state implementation plan (SIP) submission from the State of Hawaii addressing requirements in the Clean Air Act (CAA or “Act”) regarding interstate transport for the 2015 ozone national ambient air quality standards (NAAQS). Hawaii submitted a SIP revision on November 12, 2019 addressing the CAA provision prohibiting any source or other type of emissions activity in one state from emitting any air pollutant in amounts that will contribute significantly to nonattainment or interfere with maintenance of the NAAQS in any other state (“the good neighbor provision”). The EPA is proposing to approve Hawaii’s good neighbor SIP revision for the 2015 ozone NAAQS.

DATES: Any comments must arrive by **[INSERT DATE 30 DAYS AFTER THE DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2020-0567 at <https://www.regulations.gov>. Follow the online instructions for submitting comments at [Regulations.gov](https://www.regulations.gov). Once submitted, comments cannot be edited or removed from [Regulations.gov](https://www.regulations.gov). The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on

the web, cloud, or other file sharing system). For additional submission methods, or if you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT: Tom Kelly, EPA Region IX, (415) 972-3856, kelly.thomasp@epa.gov. If you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the FOR FURTHER INFORMATION CONTACT section.

SUPPLEMENTARY INFORMATION: Throughout this document, “we,” “us,” and “our” refer to the EPA.

I. Background

On October 1, 2015, the EPA promulgated a revision to the ozone NAAQS (“2015 ozone NAAQS”), lowering the level of both the primary and secondary standards to 0.070 parts per million (ppm).¹ Section 110(a)(1) of the CAA requires states to submit, within 3 years after promulgation of a new or revised standard, SIP submissions meeting the applicable requirements of section 110(a)(2).² One of these applicable requirements is found in section 110(a)(2)(D)(i)(I), otherwise known as the good neighbor provision, which generally requires SIPs to contain adequate provisions to prohibit in-state emissions activities from having certain adverse air quality effects on other states due to interstate transport of pollution. There are two so-called “prongs” within CAA section 110(a)(2)(D)(i)(I). A SIP for a new or revised NAAQS must contain adequate provisions prohibiting any source or other type of emissions activity within the

¹ National Ambient Air Quality Standards for Ozone, Final Rule, 80 FR 65292 (October 26, 2015). Although the level of the standard is specified in the units of ppm, ozone concentrations are also described in parts per billion (ppb). For example, 0.070 ppm is equivalent to 70 ppb.

² SIP revisions that are intended to meet the applicable requirements of section 110(a)(1) and (2) of the CAA are often referred to as infrastructure SIPs and the applicable elements under 110(a)(2) are referred to as infrastructure requirements.

state from emitting air pollutants in amounts that will: significantly contribute to nonattainment of the NAAQS in another state (prong 1); or interfere with maintenance of the NAAQS in another state (prong 2). The EPA and states must give independent significance to prong 1 and prong 2 when evaluating downwind air quality problems under CAA section 110(a)(2)(D)(i)(I).³

We note that the EPA has addressed the interstate transport requirements of CAA section 110(a)(2)(D)(i)(I) with respect to prior ozone NAAQS in several regional regulatory actions, including the Cross-State Air Pollution Rule (CSAPR), which addressed interstate transport with respect to the 1997 ozone NAAQS as well as the 1997 and 2006 fine particulate matter standards,⁴ the CSAPR Update, and, most recently, the Revised CSAPR Update for the 2008 ozone NAAQS.^{5,6}

Through the development and implementation of CSAPR and other regional rulemakings pursuant to the good neighbor provision,⁷ the EPA, working in partnership with states, developed the following four-step interstate transport framework to address the requirements of the good neighbor provision for the ozone NAAQS: (1) identify downwind air quality problems; (2) identify upwind states that impact those downwind air quality problems sufficiently such that they are considered “linked” and therefore warrant further review and analysis; (3) identify the emissions reductions necessary (if any), applying a multifactor analysis, to prevent linked upwind states identified in step 2 from contributing significantly to nonattainment or interfering with maintenance of the NAAQS at the locations of the downwind air quality problems; and (4) adopt permanent and enforceable measures needed to achieve those emissions reductions.

³ See *North Carolina v. EPA*, 531 F.3d 896, 909-911 (2008).

⁴ 76 FR 48208 (August 8, 2011).

⁵ The Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS (86 FR 23054; April 30, 2021) was signed by the EPA Administrator on March 15, 2021 and responded to the remand of the CSAPR Update (81 FR 74504; October 26, 2016) and the vacatur of a separate rule, the CSAPR Close-Out (83 FR 65878; December 21, 2018) by the D.C. Circuit. *Wisconsin v. EPA*, 938 F.3d 303 (D.C. Cir. 2019); *New York v. EPA*, 781 F. App'x. 4 (D.C. Cir. 2019).

⁶ In 2019, the D.C. Circuit Court of Appeals remanded the CSAPR Update to the extent it failed to require upwind states to eliminate their significant contribution by the next applicable attainment date by which downwind states must come into compliance with the NAAQS, as established under CAA section 181(a). 938 F.3d 303, 313.

⁷ In addition to the CSAPR rulemakings, other regional rulemakings addressing ozone transport include the NO_x SIP Call, 63 FR 57356 (October 27, 1998), and the Clean Air Interstate Rule (CAIR), 70 FR 25162 (May 12, 2005).

The EPA has released several documents containing information relevant to evaluating interstate transport with respect to the 2015 ozone NAAQS. First, on January 6, 2017, the EPA published a notice of data availability (NODA) with preliminary interstate ozone transport modeling with projected ozone design values for 2023 using a 2011 base year platform, on which we requested comment.⁸ In the NODA, the EPA used the year 2023 as the analytic year for this preliminary modeling because that year aligns with the expected attainment year for Moderate ozone nonattainment areas for the 2015 ozone NAAQS.⁹ On October 27, 2017, we released a memorandum (“2017 memorandum”) containing updated modeling data for 2023, which incorporated changes made in response to comments on the NODA, and noted that the modeling may be useful for states developing SIPs to address good neighbor obligations for the 2008 ozone NAAQS.¹⁰ On March 27, 2018, we issued a memorandum (“March 2018 memorandum”) noting that the same 2023 modeling data released in the 2017 memorandum could also be useful for identifying potential downwind air quality problems with respect to the 2015 ozone NAAQS at step 1 of the four-step interstate transport framework. The March 2018 memorandum also included the then newly available contribution modeling results to assist states in evaluating their impact on potential downwind air quality problems for the 2015 ozone NAAQS under step 2 of the interstate transport framework. The EPA subsequently issued two additional memoranda in August and October 2018, providing additional information to states developing good neighbor SIPs for the 2015 ozone NAAQS concerning, respectively, potential contribution thresholds that

⁸ See Notice of Availability of the Environmental Protection Agency’s Preliminary Interstate Ozone Transport Modeling Data for the 2015 Ozone National Ambient Air Quality Standard (NAAQS), 82 FR 1733 (January 6, 2017).

⁹ 82 FR 1735 (January 6, 2017).

¹⁰ See Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I), October 27, 2017, available in the docket for this action or at <https://www.epa.gov/interstate-air-pollution-transport/interstate-air-pollution-transport-memos-and-notices>.

may be appropriate to apply in step 2 of the framework, and considerations for identifying downwind areas that may have problems maintaining the standard at step 1 of the framework.¹¹

On October 30, 2020, in the Notice of Proposed Rulemaking for the Revised CSAPR Update, the EPA released and accepted public comment on updated 2023 modeling that used the 2016 emissions platform developed under the EPA/Multi-Jurisdictional Organization (MJO)/state collaborative project as the primary source for the base year and future year emissions data.¹² On March 15, 2021, the EPA signed the final Revised CSAPR Update using the same modeling released at proposal.¹³ Although Hawaii relied in part on the modeling included in the March 2018 memorandum to develop its SIP submission, the EPA now proposes to primarily rely on the updated and newly available 2016 base year modeling in evaluating this submission. By using the updated modeling results, EPA is using the most current and technically appropriate information as the primary basis for this proposed rulemaking. EPA's independent analysis, which also evaluated historical monitoring data, recent ambient air monitoring design values, and emissions trends, found that such information provides additional support and further substantiates the results of the 2016 base year modeling as the basis for this proposed rulemaking. Section II of this document and the Air Quality Modeling technical support document (TSD) included in the docket for this proposed action contain additional detail on this modeling.¹⁴

¹¹ See Analysis of Contribution Thresholds for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, August 31, 2018) ("August 2018 memorandum"), and Considerations for Identifying Maintenance Receptors for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, October 19, 2018, available in the docket for this action or at <https://www.epa.gov/airmarkets/memo-and-supplemental-information-regarding-interstate-transport-sips-2015-ozone-naaqs>.

¹² See 85 FR 68964, 68981. The results of this modeling are included in a spreadsheet in the docket for this action. The underlying modeling files are available for public review in the docket for the Revised CSAPR Update (EPA-HQ-OAR-2020-0272).

¹³ 82 FR 23054 (April 30, 2021).

¹⁴ See "Air Quality Modeling Technical Support Document for the Proposed Revised Cross-State Air Pollution Rule Update," 85 FR 68964 (October 30, 2020), available in the docket for this action or at <https://www.epa.gov/csapr/revised-cross-state-air-pollution-rule-update>. This TSD was originally developed to support EPA's proposed action in the Revised CSAPR Update, as relating to outstanding good neighbor obligations under the 2008 ozone NAAQS. While developed in this separate context, the data and modeling outputs, including interpolated design values for 2021, may be evaluated with respect to the 2015 ozone NAAQS and used in support of this action.

In the CSAPR, CSAPR Update, and the Revised CSAPR Update, the EPA used a threshold of one percent of the NAAQS to determine whether a given upwind state was “linked” at step 2 of the interstate transport framework and would, therefore, contribute to downwind nonattainment and maintenance sites identified in step 1. If a state’s impact did not equal or exceed the one percent threshold, the upwind state was not “linked” to a downwind air quality problem, and the EPA, therefore, concluded the state would not significantly contribute to nonattainment or interfere with maintenance of the NAAQS in the downwind states. However, if a state’s impact equaled or exceeded the one percent threshold, the state’s emissions were further evaluated in step 3, to determine what, if any, emissions might be deemed “significant” and, thus, must be eliminated under the good neighbor provision. The EPA is proposing to rely on the one percent threshold (i.e., 0.070 ppb) for the purpose of evaluating Hawaii’s contributions to nonattainment or maintenance of the 2015 ozone NAAQS in downwind areas.

Several D.C. Circuit court decisions have addressed the issue of the relevant analytic year for the purposes of evaluating ozone transport air-quality problems. On September 13, 2019, the D.C. Circuit issued a decision in *Wisconsin v. EPA*, remanding the CSAPR Update to the extent that it failed to require upwind states to eliminate their significant contribution by the next applicable attainment date by which downwind states must come into compliance with the NAAQS, as established under CAA section 181(a).¹⁵

On May 19, 2020, the D.C. Circuit issued a decision in *Maryland v. EPA* that cited the *Wisconsin* decision in holding that the EPA must assess the impact of interstate transport on air quality at the next downwind attainment date, including Marginal area attainment dates, in evaluating the basis for the EPA’s denial of a petition under CAA section 126(b).¹⁶ The court noted that “section 126(b) incorporates the Good Neighbor Provision,” and, therefore, “the EPA must find a violation [of section 126] if an upwind source will significantly contribute to

¹⁵ 938 F.3d 303, 313.

¹⁶ *Maryland v. EPA*, 958 F.3d 1185, 1203-04 (D.C. Cir. 2020).

downwind nonattainment at the *next downwind attainment deadline*. Therefore, the agency must evaluate downwind air quality at that deadline, not at some later date.”¹⁷ The EPA interprets the court’s holding in *Maryland* as requiring the Agency, under the good neighbor provision, to assess downwind air quality by the next applicable attainment date, including a Marginal area attainment date under section 181 for ozone nonattainment.¹⁸ The Marginal area attainment date for the 2015 ozone NAAQS is August 3, 2021.¹⁹ Historically, the EPA has considered the full ozone season prior to the attainment date as supplying an appropriate analytic year for assessing good neighbor obligations. While this would be 2020 for an August 2021 attainment date (which falls within the 2021 ozone season running from May 1 to September 30), in this circumstance, when the 2020 ozone season is wholly in the past, it is appropriate to focus on 2021 in order to address good neighbor obligations to the extent possible by the 2021 attainment date. The EPA does not believe it would be appropriate to select an analytical year that is wholly in the past, because the agency interprets the good neighbor provision as forward looking.²⁰ Consequently, in this proposed action the EPA will use the analytical year of 2021 to evaluate Hawaii’s good neighbor obligations with respect to the 2015 ozone NAAQS.²¹

II. HDOH SIP Submission

The Hawaii Department of Health (HDOH) submitted its good neighbor SIP submission for the 2015 ozone NAAQS by letter dated November 12, 2019.²² The submittal included documentation of public participation proceedings to meet the requirements of CAA section

¹⁷ Id. at 1204.

¹⁸ We note that the court in *Maryland* did not have occasion to evaluate circumstances in which EPA may determine that an upwind linkage to a downwind air quality problem exists at steps 1 and 2 of the interstate transport framework by a particular attainment date, but for reasons of impossibility or profound uncertainty the Agency is unable to mandate upwind pollution controls by that date. *See Wisconsin*, 938 F.3d at 320. The D.C. Circuit noted in *Wisconsin* that upon a sufficient showing, these circumstances may warrant flexibility in effectuating the purpose of the good neighbor provision. Such circumstances are not at issue in the present action.

¹⁹ CAA section 181(a); 40 CFR 51.1303; 83 FR 25776 (June 4, 2018, effective Aug. 3, 2018).

²⁰ See 85 FR at 68981; see also *Wisconsin*, 938 F.3d at 322.

²¹ EPA recognizes that by the time final action is taken with respect to this SIP submission, the 2021 ozone season will be wholly in the past. As discussed below, the available modeling information indicates that our analysis would not change even using 2023 as the analytic year. The 2023 modeling results are included in the “Ozone Design Values and Contributions Revised CSAPR Update.xlsx”, included in the docket for this action.

²² Letter dated November 12, 2019, from Bruce Anderson, Ph.D., Director of Health, HDOH, to Mike Stoker, Regional Administrator, U.S. EPA, Region IX.

110(a)(2) and 40 CFR 51.102. The EPA determined that the submittal was complete on November 13, 2019.²³

HDOH concluded that Hawaii does not significantly contribute to nonattainment or interfere with maintenance of the 2015 ozone NAAQS in any other state, citing the distance from Hawaii to the continental U.S, the relatively small quantity of ozone precursor emissions in Hawaii, and an evaluation of ozone transport using trajectory analysis of emissions from Hawaii to the continental U.S.

In the HDOH submittal, the State notes that Hawaii is approximately 2,390 miles from the nearest state, California. HDOH also points to Hawaii's 2016 Annual Summary of Air Quality Data to note that Hawaii is in attainment for all NAAQS and compares Hawaii's ozone precursor emissions to those of California and Nevada. Hawaii's analysis states that emissions of ozone precursors, nitrogen oxides (NO_x) and volatile organic compounds (VOC), from Hawaii were 7.57 and 6.28 percent, respectively, of California's emissions in 2011 and 7.95 and 5.21 percent in 2014.²⁴ Cumulatively, emissions of ozone precursors from Hawaii in 2011 and 2014 were 6.97 and 6.54 percent, respectively, of California's emissions. Furthermore, HDOH points out that the State's ozone precursor emissions have exhibited a downward trend, having decreased since the 2011 National Emissions Inventory (NEI), and notes that their emissions continue to be relatively low compared to California. To demonstrate that Hawaii's ozone precursor emissions would not significantly contribute to interstate transport, even if California and Hawaii were directly adjacent to each other, the submittal compares Hawaii's ozone precursor emissions to those of Nevada, which shares a border with California, but does not significantly contribute to interstate transport to any other state.²⁵ Emissions of NO_x and VOCs

²³ Letter dated November 13, 2019, from Elizabeth J. Adams, Acting Director, Air Division, EPA Region 9, to Bruce Anderson, HDOH.

²⁴ 2014 data was the most recent available at the time Hawaii prepared its submittal.

²⁵ Hawaii cited EPA's 2015 Ozone NAAQS Interstate Transport Assessment Design Values and Contributions spreadsheet, released in a memorandum from Peter Tsirigotis, to Regional Air Division Directors, Region 1-10, dated March 27, 2018. See "2015 Ozone NAAQS Interstate Transport Assessment Design Values and Contributions" at <https://www.epa.gov/airmarkets/memo-and-supplemental-information-regarding-interstate-transport-sips-2015-ozone-naaqs>. File name: Updated_2023_modeling_dvs_collective_contributions.xlsx.

from Hawaii were 51.24 and 49.28 percent, respectively, of Nevada's emissions in 2014.

Cumulatively, emissions of ozone precursors from Hawaii in 2014 were 50.35 percent of Nevada's emissions.

Appendix 1 of the HDOH submittal provides trajectories for emissions from Hawaii's Campbell Industrial Park, which includes a refinery and power generation facility, based on 2010 meteorological data during January and July. HDOH found that a comparison between the trajectory modeling results and ozone monitoring data supports the conclusion that it is highly unlikely that Hawaii is currently impacting nonattainment or maintenance areas of other states and that it is highly unlikely to do so in the future.

III. EPA Evaluation

As explained in Section I of this document, in consideration of the holdings in *Wisconsin* and *Maryland*, the EPA's four-step interstate transport analysis relies on 2021 as the relevant attainment year for evaluating Hawaii's good neighbor obligations with respect to the 2015 ozone NAAQS.²⁶ In step 1, we identify locations where the Agency expects there to be nonattainment or maintenance receptors for the 2015 8-hour ozone NAAQS in the 2021 analytic future year. Where the EPA's analysis shows that a monitoring site does not fall under the definition of a nonattainment or maintenance receptor, that site is excluded from further analysis under the EPA's four-step interstate transport framework. For monitoring sites that are identified as nonattainment or maintenance receptors in 2021, we proceed to the next step of our four-step framework by identifying the upwind state's contribution to those receptors.

The EPA's approach to identifying ozone nonattainment and maintenance receptors in this proposed action is consistent with the approach used in the CSAPR, the CSAPR Update, and

²⁶ We recognize that Hawaii and other states may have been influenced by EPA's 2018 guidance memos (issued prior to the *Wisconsin* and *Maryland* decisions) in making good neighbor submissions that relied on EPA's modeling of 2023. When there are intervening changes in relevant law or legal interpretation of CAA requirements, states are generally free to withdraw, supplement, and/or re-submit their SIP submissions with new analysis (in compliance with CAA procedures for SIP submissions). While Hawaii has not done this, as explained in this section, the independent analysis EPA has conducted at its discretion confirms that the state's submission in this instance is ultimately approvable.

the Revised CSAPR Update. The EPA’s approach gives independent consideration to both the “contribute significantly to nonattainment” and the “interfere with maintenance” prongs of section 110(a)(2)(D)(i)(I), consistent with the D.C. Circuit’s direction in *North Carolina*.²⁷ Further, in its decision on the remand of CSAPR from the Supreme Court in the *EME Homer City* case, the D.C. Circuit confirmed that the EPA’s approach to identifying maintenance receptors in CSAPR comported with the court’s prior instruction to give independent meaning to the “interfere with maintenance” prong in the good neighbor provision.²⁸

For purposes of this proposed action, the EPA identifies nonattainment receptors as those monitoring sites that are projected to have average design values that exceed the NAAQS and that are also measuring nonattainment based on the most recent monitored design values.²⁹ This approach is consistent with prior transport rulemakings, such as the CSAPR Update, where the EPA defined nonattainment receptors as those areas that both currently monitor nonattainment and that the EPA projects will be in nonattainment in the future analytic year.³⁰ In addition, in this proposed action, the EPA identifies a receptor to be a “maintenance” receptor for purposes of defining interference with maintenance, consistent with the method used in CSAPR and upheld by the D.C. Circuit in *EME Homer City II*.^{31,32}

Recognizing that nonattainment receptors are also, by definition, maintenance receptors, the EPA often uses the term “maintenance-only” to refer to receptors that are not also nonattainment receptors. Consistent with the methodology described above, monitoring sites

²⁷ 531 F.3d at 910-911 (holding that the EPA must give “independent significance” to each prong of CAA section 110(a)(2)(D)(i)(I)).

²⁸ *EME Homer City Generation, L.P. v. EPA*, 795 F.3d 118, 136 (D.C. Cir. 2015) (*EME Homer City II*).

²⁹ Average projected design values are based on the average design value during the five-year base monitoring period (i.e., 2014-2016, 2015-2017 and 2016-2018), as discussed in the Final Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS (86 FR 23054, April 30, 2021) and further clarified in the Air Quality Modeling Technical Support Document for the Final Revised Cross State Air Pollution Rule Update, which is available in the docket for that rulemaking EPA-HQ-OAR-2020-0272.

³⁰ See 81 FR 74504 (October 26, 2016). The Revised CSAPR Update also used this approach. See 86 FR 23054 (April 30, 2021). This same concept, relying on both current monitoring data and modeling to define nonattainment receptors, was also applied in CAIR. See 70 FR 25241 (January 14, 2005); see also *North Carolina*, 531 F.3d at 913-14 (affirming as reasonable EPA’s approach to defining nonattainment in CAIR).

³¹ See 795 F.3d at 136.

³² Maximum projected design values are based on the maximum design value during the five-year base monitoring period from 2014 to 2018.

with a projected maximum design value that exceeds the NAAQS, but with a projected average design value that is below the NAAQS, are identified as maintenance-only receptors. In addition, those sites that are currently measuring ozone concentrations below the level of the applicable NAAQS but are projected to be nonattainment based on the average design value and that, by definition, are projected to have a maximum design value above the standard are also identified as maintenance-only receptors.

To evaluate future air quality in steps 1 and 2 of the interstate transport framework, the EPA is using the 2016 and 2023 base case emissions developed under the EPA/MJO/state collaborative emissions modeling platform project as the primary source for base year and 2023 future year emissions data for this proposed rule. Because this platform does not include emissions for 2021, the EPA developed an interpolation technique based on modeling for 2023 and measured ozone data to determine ozone concentrations for 2021. To estimate average and maximum design values for 2021, the EPA first performed air quality modeling for 2016 and 2023 to obtain design values in 2023. The 2023 design values were then coupled with the corresponding 2016 measured design values to estimate design values in 2021. Details on the modeling, including the interpolation methodology, can be found in the Air Quality Modeling TSD, in the docket for this proposed action.

To quantify the contribution of emissions from specific upwind states on 2021 8-hour design values for the identified downwind nonattainment and maintenance receptors, the EPA first performed nationwide, state-level ozone source apportionment modeling for 2023. The source apportionment modeling provided contributions to ozone from precursor emissions of anthropogenic NO_x and VOCs in each individual state. The modeled contributions were then applied in a relative sense to the 2021 average design value to estimate the contributions in 2021 from each state to each receptor. Details on the source apportionment modeling and the methods for determining contributions in 2021 are in the Air Quality Modeling TSD in the docket.

The EPA generally does not consider modeling to be necessary for isolated states like Hawaii for the purposes of evaluating interstate transport. Therefore, Hawaii was not included in the modeling domain, and the apportionment modeling analysis described above does not calculate emissions contributions from Hawaii to the downwind nonattainment and maintenance areas identified in step 1 in the contiguous United States. In lieu of apportionment modeling, at step 2 of the interstate transport framework, a proper and well-supported weight of evidence approach can provide sufficient information for purposes of addressing Hawaii's interstate transport for the 2015 ozone NAAQS. In a weight of evidence analysis, no single piece of information is by itself dispositive of the issue. Instead, the total weight of all the evidence taken together is used to evaluate significant contribution to nonattainment or interference with maintenance of the 2015 ozone NAAQS in another state. In the weight of evidence analysis detailed below, we consider (1) the distance between sources in Hawaii and the nonattainment and maintenance receptors identified in step 1; (2) the relative magnitude of state-wide emissions of ozone precursors; (3) an evaluation of prevailing wind direction that may impact of transport of emissions from Hawaii during the summer ozone season; and (4) a comparison of Hawaii's impact on California to California's impact on Connecticut.

The state with the nearest nonattainment receptors to Hawaii is California, based on the modeling supporting the Revised CSAPR Update.³³ The nearest California nonattainment receptor is the Modesto-14th Street monitor, located in Stanislaus County, which is 2,384 miles from the easternmost edge of Hawaii.³⁴ The next closest nonattainment receptors outside of

³³ Projected ozone 2021 receptor concentrations and interstate contributions are contained in spreadsheet titled, *ozone_design_values_contributions_proposed_revised_csapr_update.xlsx*. The spreadsheet and accompanying TSD, Air Quality Modeling TSD for the Proposed Revised Cross-State Air Pollution Rule Update, are contained in the docket for the Proposed Revised CSAPR Update, Docket Number EPA-HQ-OAR-2020-0272, and have also been included in the docket for this action. In total, in California 22 counties have nonattainment receptors and 2 counties have maintenance-only receptors.

³⁴ Determination of the nearest nonattainment and maintenance-only receptors was based on final 2020 Ozone Design values. Final 2020 design value reports can be found at <https://www.epa.gov/air-trends/air-quality-design-values#report>. California has numerous other nonattainment receptors in the following counties: Calaveras, El Dorado, Fresno, Imperial, Kern, Los Angeles, Madera, Mariposa, Merced, Nevada, Orange, Placer, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, Stanislaus, Tulare, and Tuolumne.

California are located in Douglas County, Jefferson County, and Larimer County in Colorado, and Davis County and Salt Lake County in Utah.

The nearest California maintenance-only receptor to Hawaii is the Tracy-Airport monitor, located in San Joaquin County, which is 2,363 miles from the easternmost edge of Hawaii.³⁵ The next closest maintenance-only receptors outside of California are in Yuma County, Arizona; Clark County, Nevada; Dona Ana County, New Mexico; and Weber County, Utah.

Sheer distance alone makes it unlikely that emissions from Hawaii contribute to nonattainment or interfere with maintenance in these states. However, we also compare the emissions of ozone precursors from Hawaii to those of other western states.³⁶ Hawaii's emissions of ozone precursors are substantially lower than emissions from other western states, as shown in Table 1.³⁷ The table represents the most recent data available on emissions of ozone precursors. NEI data, which is released every three years, is not yet available for 2020.

| Table 1 – Emissions of Ozone Precursors (tons per year) ^a | | | | | | |
|--|-----------------|---------|---------|---------|---------|---------|
| Pollutant | NO _x | | | VOC | | |
| Year | 2011 | 2014 | 2017 | 2011 | 2014 | 2017 |
| HI | 54,398 | 43,061 | 40,809 | 38,781 | 26,593 | 31,079 |
| AZ | 241,993 | 215,643 | 163,779 | 167,951 | 120,100 | 141,160 |
| CA | 724,362 | 546,495 | 466,555 | 617,658 | 539,159 | 527,313 |
| NV | 99,234 | 84,746 | 69,539 | 68,526 | 50,601 | 68,547 |
| OR | 147,112 | 125,922 | 115,886 | 152,142 | 103,811 | 126,818 |
| UT | 178,586 | 172,488 | 90,975 | 217,880 | 176,188 | 135,231 |

Source: Data lists all point, nonpoint, onroad and nonroad emissions from EPA's National Emissions Inventory downloaded from EPA's Emissions Information System, files 2017NEI_Apr2020, 2014 NEI Final V2, 2011 NEI V2.

^a Biogenic emission from plants and soil and wildfire emissions have been excluded from this data.

The relative magnitude of Hawaii's emissions compared to Arizona, California, Nevada, Oregon, and Utah, coupled with the distance between Hawaii and these states, further indicates that Hawaii is unlikely to contribute to nonattainment or interfere with maintenance in California, or any other state.

³⁵ Monitor ID: 60773005.

³⁶ Emissions estimates downloaded from the EPA's National Emissions Inventory, datasets: 2017NEI_Apr2020, 2014 NEI Final V2, on January 4 and 5, 2021, and saved as Excel spreadsheet files in the docket for this action.

³⁷ In this analysis, we focus primarily on 2017 emissions. The most recent available. The Docket for this document contains additional information about Event Emissions, which are comprised of wildfire, prescribed fire and agricultural burning.

The next step in our analysis is to look at prevailing wind direction in Hawaii. In the trajectory analysis in Appendix 1 of the State’s submittal, HDOH concluded that the predominant transport patterns in January and July of 2010 – which are from the northeast to the southwest (i.e., generally opposite the direction from Hawaii to the location of nonattainment and maintenance-only receptors in the US) -- support the conclusion that Hawaii is unlikely to contribute to nonattainment or interfere with maintenance in California or other western states.³⁸ While HDOH only analyzed wind trajectories in January and July of 2010, Hawaii’s 2017 Regional Haze SIP contains 2013 and 2015 wind rose plots, which also illustrate that the predominant wind transport patterns year-round blow from northeast to southwest.³⁹ This is further verified by the National Weather Service, which lists persistent trade winds, the prevailing easterly winds⁴⁰ that circle the earth near the equator as a result of the earth’s rotation, from the northeast as a feature of Hawaii’s climate.⁴¹ Based on the State’s trajectory analysis and wind rose plots from its 2017 Regional Haze SIP, along with information from the National Weather Service, we expect emissions from Hawaii would initially travel westwards before turning eastwards on the vast majority of days. This would make the pathway to the continental U.S. considerably longer than the more than 2,000 miles separating the continental U.S. from Hawaii. These trajectories further indicate that Hawaii is unlikely to contribute to nonattainment or interfere with maintenance in California or any other state

Finally, we compare the impact of Hawaii on California, with California’s impact on Connecticut, because the distance between Hawaii and California, and Connecticut and

³⁸ The U.S. EPA has also relied on this trajectory analysis in approving Hawaii’s State Implementation Plan submittals addressing interstate transport for the 2008 ozone NAAQS (84 FR 40266, September 13, 2019, see the proposed rule at 84 FR 6736, February 28, 2019), and the 1997 ozone NAAQS (77 FR 47530, October 9, 2012). See Technical Support Document, Evaluation of 2011 Hawaii Infrastructure SIP for 1997 Ozone; 1997 Particulate Matter; and 2006 Particulate Matter NAAQS, U.S. EPA, Region 9, March 2012.

³⁹ Appendix C, 5 Year Regional Haze Progress Report for the Federal Implementation Plan, Hawaii Department of Health, October 2017. The EPA approved the Regional Haze Progress Report on May 13, 2019 (84 FR 14634).

⁴⁰ In meteorology, wind direction is described as the direction from which the wind is blowing (i.e. the Hawaiian trade winds blow from the northeast to the southwest), see <https://www.weather.gov/cae/weatherterms.html>.

⁴¹ US Department of Commerce, National Oceanic and Atmospheric Association (NOAA). “Honolulu, HI.” Pacific Region Headquarters, NOAA’s National Weather Service, https://www.weather.gov/hfo/climate_summary, accessed on June 28, 2021.

California, is roughly equivalent. As previously mentioned, we have modeled contributions among the continental states in the Revised CSAPR Update. In terms of distance, Hawaii is slightly farther to nonattainment and maintenance-only receptors in California, at 2,384 and 2,363 miles, respectively, than California is to nonattainment and maintenance only receptors in Connecticut, which are 2,263 and 2,285 miles away, respectively.⁴² California's contribution to these monitors is 0.03 ppb to both the nonattainment and maintenance-only receptors in 2021, which represents the maximum contribution of California to any nonattainment and maintenance-only receptor in Connecticut. This is well below the threshold of 1 percent of the NAAQS that would link the two states, triggering further review in steps 3 and 4 of the interstate transport analysis framework. Given that the distance between California and Connecticut is comparable to the distance between Hawaii and California, and ozone precursor emissions from California are more than 10 times larger than ozone precursor emissions from Hawaii, because California's contributions to Connecticut are well below the 1 percent threshold, it is reasonable to conclude that Hawaii's contribution to California would also be below the 1 percent threshold. Therefore, it is not necessary to evaluate potential NO_x reductions as part of step 3 in the EPA's four-step interstate transport framework.

Based on the weight of evidence, including (1) the distance between Hawaii and California, (2) the relative magnitude of ozone precursor emissions from Hawaii, (3) the predominant wind direction of the trade winds in Hawaii, and (4) the comparison to the impact of ozone precursor emissions from California on Connecticut, we propose to find that Hawaii will not significantly contribute to nonattainment or interfere with maintenance in any other state.

IV. The EPA's Proposed Action

Based on our review of the interstate transport SIP submission from HDOH to address

⁴² Nonattainment Receptor at Monitor ID 90019003, Fairfield, CT and Maintenance-Only Receptor at Monitor ID 90090027, New Haven, CT.

the 2015 ozone NAAQS and the additional analysis discussed in this document, we propose to find that emissions from Hawaii will not significantly contribute to nonattainment or interfere with maintenance of the 2015 ozone NAAQS in any other state. Accordingly, we propose to approve the HDOH Submittal as satisfying the requirements of CAA section 110(a)(2)(D)(i)(I) for the 2015 ozone NAAQS.

V. Statutory and Executive Order Reviews.

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this proposed action merely proposes to approve state law as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks

subject to Executive Order 13045 (62 FR 19885, April 23, 1997);

- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Nitrogen oxides, Volatile organic compounds, Interstate transport, Infrastructure SIP.

AUTHORITY: 42 U.S.C. 7401 *et seq.*

Dated: September 18, 2021.

Deborah Jordan,
Acting Regional Administrator,
Region IX.

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